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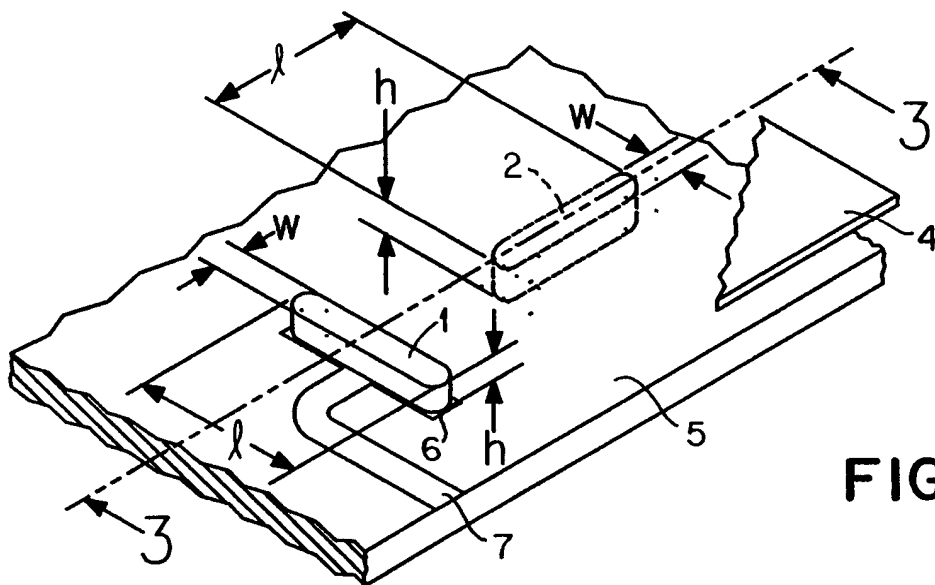


FIG. 1

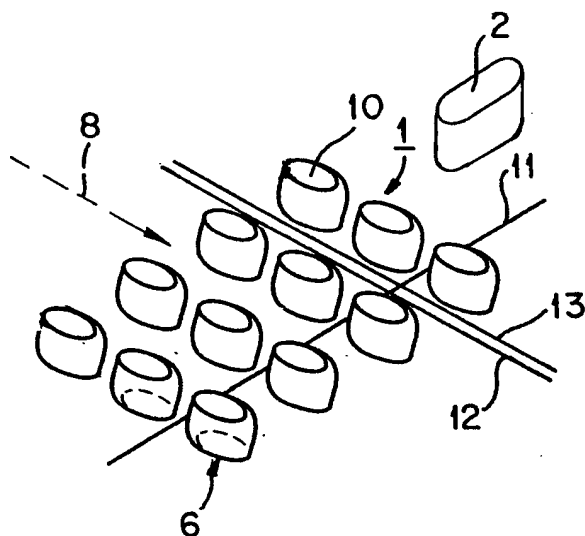


FIG. 2

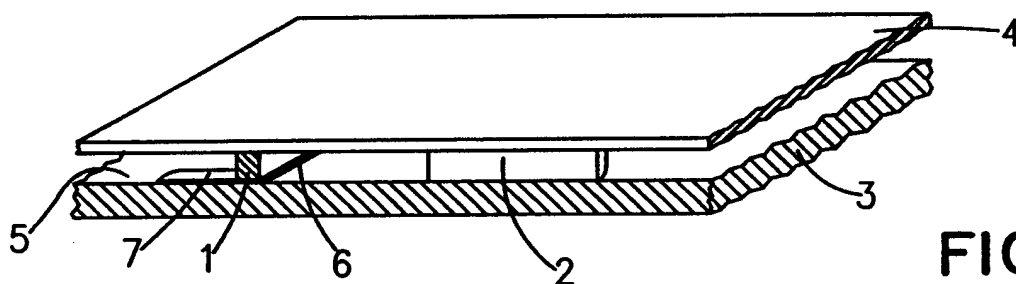
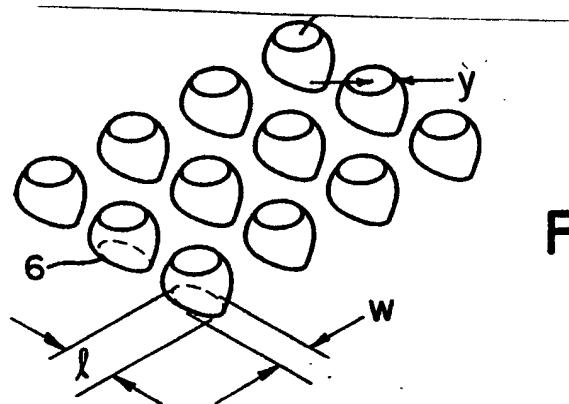


FIG. 3

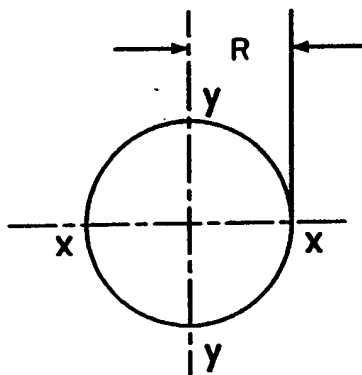


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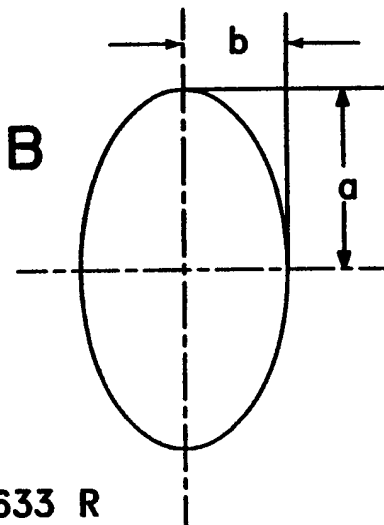


**FIG. 4**

CIRCLE



ELLIPSE



**FIG. 5 B**

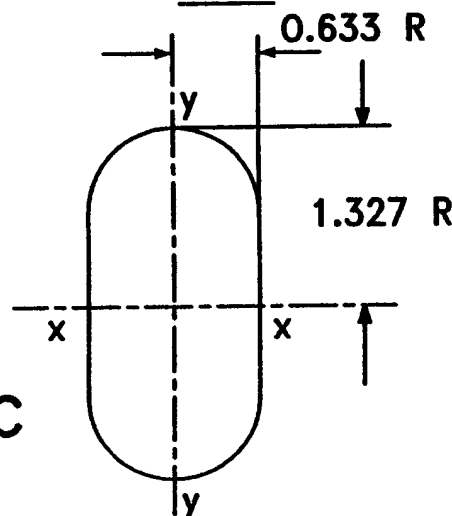
AREA MOMENT OF INERTIA:

$$i_{xx} = .785 R^4 (\pi R^4 / 4)$$

$$i_{yy} = .785 R^4 (\pi R^4 / 4)$$

**FIG. 5A**

OVAL



**FIG. 5C**

$$i_{xx} = 1.534 R^4$$

$$i_{yy} = .410 R^4$$

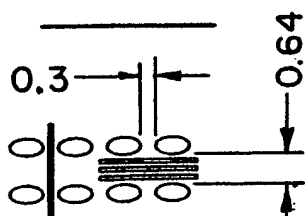
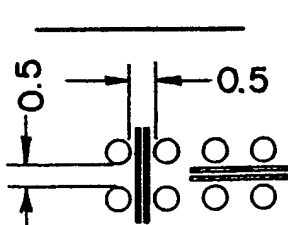


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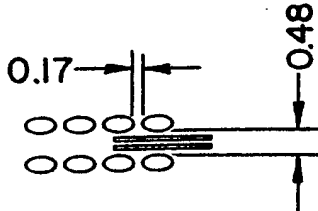
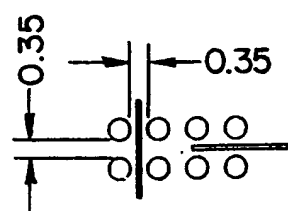
PRIOR ART  
COLUMN  
A

COLUMN  
B



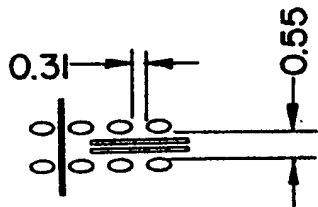
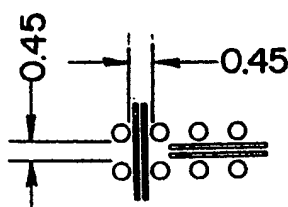
600 BALL  
500 CONTACT  
1000 PITCH

FIG.  
6A



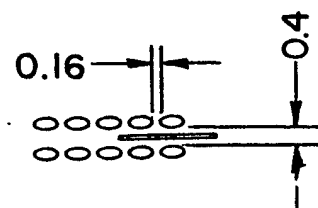
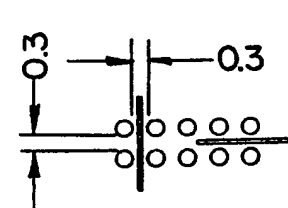
500 BALL  
450 CONTACT  
800 PITCH

FIG.  
6B



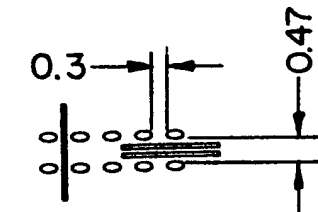
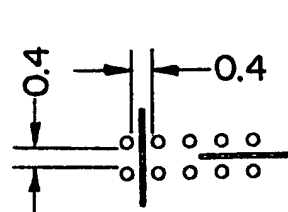
500 BALL  
350 CONTACT  
800 PITCH

FIG.  
6C



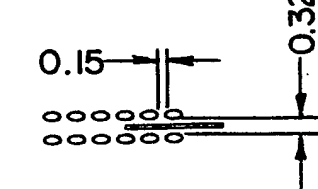
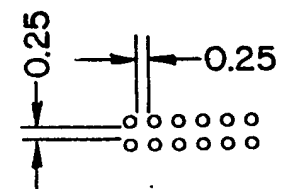
400 BALL  
350 CONTACT  
650 PITCH

FIG.  
6D



300 BALL  
250 CONTACT  
650 PITCH

FIG.  
6E



300 BALL  
250 CONTACT  
500 PITCH

FIG.  
6F



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FIG. 7  
PRIOR ART

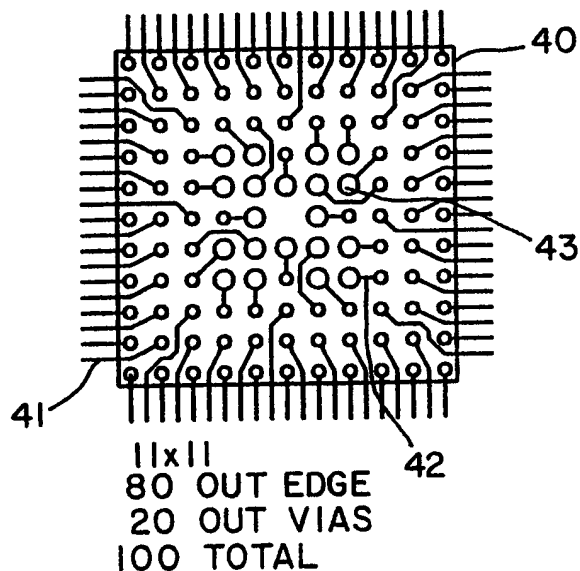


FIG. 8

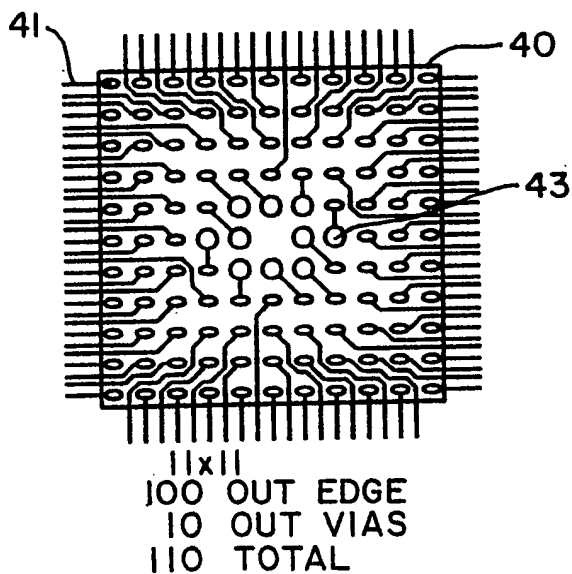
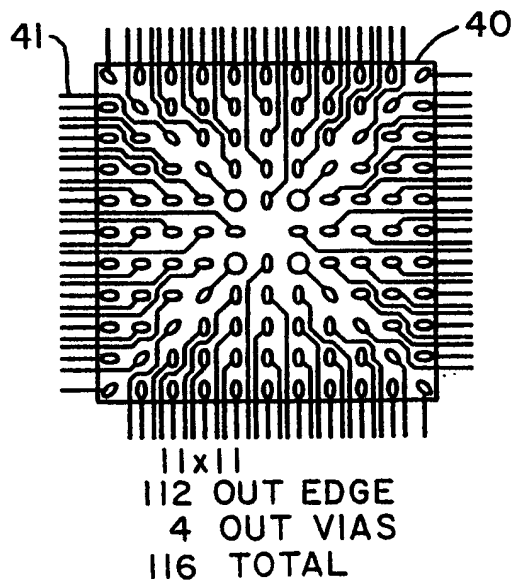


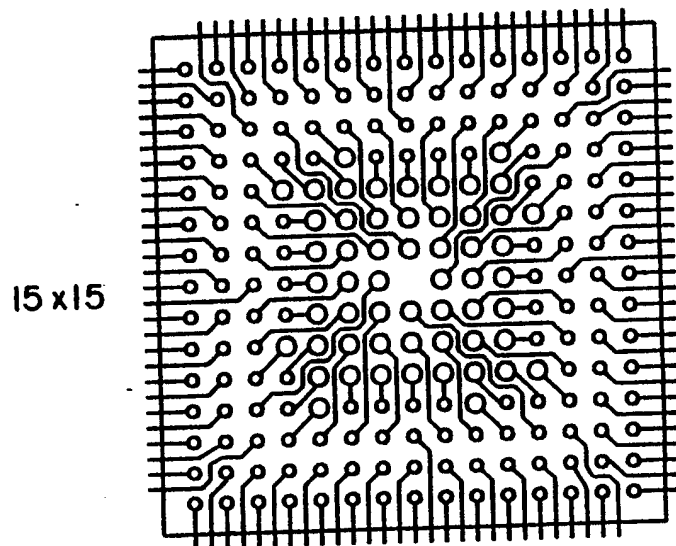
FIG. 9





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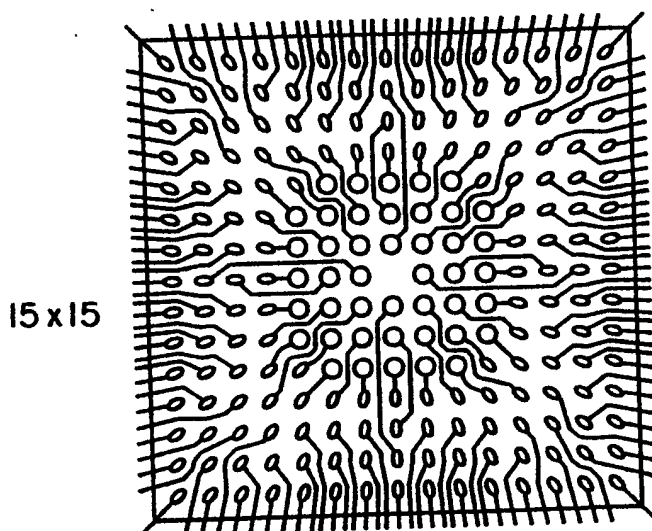
**FIG. 10**  
PRIOR ART



112 OUT EDGE  
56 OUT VIAS  
168 TOTAL

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**FIG. 11**



136 OUT EDGE  
44 OUT VIAS  
176 TOTAL

50